Taking Care of Diabetes: The Role of Food

TAKING CARE OF DIABETES: THE ROLE OF FOOD

Eating in a way that controls blood glucose, body weight, blood fat levels and provides nutritious foods is important in the management of diabetes. Additional measures such as sodium restriction may be needed if the client has other conditions, such as congestive health failure. Meal planning controls the amount of glucose that is put into the blood from food. Meal planning may be accomplished in a number of ways – the Food Pyramid, the Exchange List System, or carbohydrate counting. Your client may be using one of these meal planning methods.

How Much to Eat and When to Eat

Eating about the same amount of food at each of the meals and snacks identified by the meal plan, and eating at the same times each day helps to keep blood glucose at a healthy level. Eating about the same amount of food at each meal and snack requires that portion sizes be correct. *(Educator: Use food models and/or demonstrate the use of measuring equipment. Portion sizes of protein foods, 2 to 3 ounces, can be related to the size of a "woman's palm," or a deck of cards. Food scales are not likely to be available. However, most households have an ice cream scoop and ladle. An ice cream scoop can be used to measure mashed potatoes, rice, starchy vegetables, and frozen yogurt. Demonstrate how to determine the capacity of the scoop or ladle by filling it with water and measuring the amount of water it holds).* Certain items may be different amounts. For example, a scoop may be 1/3 to ½ cup; a small margarine tub will be about 1 cup.

Eating at about the same times each day helps to keep the blood glucose from getting too high or too low. Skipping meals or snacks when taking diabetes pills or insulin can cause serious problems with very low blood glucose levels, and usually results in wide shifts in blood glucose levels from very low to very high.

PRACTICE POINT

The Home Health Aide should inform the nurse if the timing of meals and/or the amount of food eaten at each meal is haphazard and not about the same each day. Also, it should be reported if the client skips meals.

When Food is Not the Problem

Poor blood glucose control is not always the fault of what a person is eating. Type 2 diabetes is a progressive disease. Diabetes goes through stages with blood glucose control becoming gradually more difficult to achieve. Diabetes medicines may need to be added, increased, or changed.

PRACTICE POINT

The Home Health Aide should notify the nurse if the client appears to be eating normally but the blood glucose levels remain high.

Blood Glucose Control in the Frail Senior Population

The most important concern with the frail senior person is that he/she continues to eat enough food to provide adequate nutrition. These persons appear to eat better when the diet is not a strict one. For example, a low fat diet is not useful if the individual does not take in enough calories to maintain good health.

Many seniors look for something sweet at their meals. Having sugar-free gelatin dessert (free choice) or sugar-free pudding (15 grams carbohydrate or 1 bread exchange) may help to satisfy the desire for sweets. Small servings of regular desserts may be permitted if worked into the meal plan.

PRACTICE POINT

The Home Health Aide should report to the nurse if the client is not eating enough food. The HHA should report the client's requests for food, even if they seem to be wrong foods for a person with diabetes.

Weight Control

Low calorie diets and weight loss usually improve blood glucose control. Moderate weight loss of 10 to 20 pounds can reduce blood glucose levels, blood pressure, and blood fats.

Sticking to a low calorie diet long term is hard for most people. Therefore, the priority for type 2 diabetes should be blood glucose control, not weight loss.

PRACTICE POINT

The Home Health Aide should encourage the person who is not successful at losing weight. Having good blood glucose control is the most important thing. Weight loss is not the only way to obtain good control.

Healthy Eating

The Food Pyramid

The food pyramid can be the foundation of a healthy diet. The shape of the food pyramid provides a message that foods at the base like starches bread, cereal, rice, and pasta, fruits and vegetables should be emphasized in the diet. As you move up the food pyramid, foods should be eaten in smaller amounts or less frequently. At the top, fats and sugars provide very few vitamins and minerals and should be eaten in small amounts. For the person with diabetes, starches, fruits, milk, and sugar, all high in carbohydrates, need to be carefully controlled. If, each day, different foods from each group are chosen, a person is more likely to get the vitamins and minerals needed.

Starches

This group contains bread, grains, cereal, pasta, masa, matzo, crackers and starchy vegetables such as potatoes, peas, mixed vegetables, dried peas, dried beans, lentils, baked beans, baked malanga, plantain, and yuca. Whole grain bread, brown rice, and whole grain cereals are best because they have more vitamins, minerals, and fiber than refined foods. Fiber helps a person have regular bowel movements.

One serving equals one slice of bread, or 1 small potato, or ½ cup cooked cereal, or ¾ cup dry flaked cereal, or 1 small tortilla, or 1/3 cup rice. A person may eat one, two, three or more starch servings at a meal depending on the meal plan developed for him or her.

Vegetables

Three to 5 servings of vegetables are recommended per day. Dark green and deep yellow vegetables such as spinach, broccoli, romaine lettuce, carrots, chillies, and peppers are very nutritious and should be included in the diet often. One serving equals ½ cup of a cooked vegetable or vegetable juice or 1 cup of raw vegetables. The meal plan will give the number of servings to be eaten each day.

Fruit

Fruit provides energy, vitamins, minerals, and fiber. Two to four servings a day are recommended. A citrus fruit such as an orange, ½ grapefruit, or tangerine should be chosen frequently, daily, if possible.

One serving is a small apple or small orange about the size of a tennis ball, or ½ grapefruit or 1 small banana or ½ large banana. The portion depends on the water content of the fruit. Portion sizes of dried fruit are small, ranging from 1/8 to ¼ cup. Avoid fruit or fruit juice which have added sweeteners or syrups. Whole fruits are better choices than fruit juices. Whole fruits have more fiber and may not be as quickly absorbed as the fruit juices.

Milk

Non-fat or 1% fat milk or low fat or non-fat yogurt should be included everyday. Two to three servings a day are recommended. One serving is 1 cup (8 ounces) of milk or ¾ cup plain yogurt. If drinking milk causes gas, stomach cramps, and/or diarrhea, lactose-reduced milk such as Lactaid milk can be used.

Meat and Other Protein Foods

Protein foods such a meat, fish, cottage cheese, poultry, eggs, and peanut butter are in this group. Protein foods help the body build tissue and muscles and give the body vitamins and minerals.

Two to three servings a day are recommended. The meal plan will give a number of servings from this group to be eaten each day. One serving is:

- 2 to 3 ounces (after cooking) of lean meat, fish, or poultry this is about the size of a deck of cards or the palm of a woman's hand
- ½ to ¾ cup tuna or cottage cheese
- 2 to 3 ounces of cheese; regular cheese is high in fat, reduced fat cheeses should be used and regular cheese should be used less often
- 1 egg
- 2 tablespoons peanut butter; peanut butter is high in fat and should be used sparingly;
- 4 ounces (1/2 cup) of tofu.

Fats

Fats and oils are at the top of the pyramid. Eat small amounts of fats and oils because they are very high in calories. Also, some fats contain saturated fat which is bad for you because it tends to raise blood cholesterol. Fat is also found in other foods in the pyramid. Fat is found in meat and other protein foods and in some dairy products. One serving of fat is:

- 1 teaspoon of margarine, butter, oil or mayonnaise
- 1 tablespoon of cream cheese, salad dressing, light margarine, light mayonnaise
- 1 slice bacon.

Only one to two servings of fat at each meal may be included. This includes fat used in cooking and at the table.

Sugary Foods

Sugary foods are also at the top of the food pyramid. Some sugary foods such as cakes, pies, and cookies are also high in fat. Sweets can be eaten occasionally, but only in small amounts. Also, when sweets are eaten, they should take the place of other foods in the meal plan. They should not be eaten as extras. One serving of sweets can be ½ cup of ice cream or frozen yogurt, 1 small cupcake or muffin, 2 small cookies.

Alcohol

Alcohol should be consumed only with the permission of the doctor or nurse and only in the amounts they specify. If allowed, alcohol should be taken with food.

Carbohydrate Counting

Carbohydrate counting is another way to plan meals for people with diabetes. It is based on the fact that the amount of carbohydrate (starches and sugars) in a meal determines how high the blood glucose will rise after a meal. Almost 100% of the carbohydrate in a meal becomes blood glucose within about 90 minutes after the meal. Protein (meat, fish, poultry, cheese, eggs) and fat also raise blood glucose levels but not as much as carbohydrates. Therefore, the main focus is on controlling the amount of carbohydrate that is eaten.

The food groups that contain carbohydrate are the starches (bread, grains, starchy vegetables group), vegetables, fruit, milk, and sugary foods. The amount of carbohydrate is measured in grams or by giving a certain number of servings in each of the food groups that contain carbohydrate.

The amount of carbohydrate eaten has a greater effect on blood glucose than the kind of carbohydrate (bread, fruit, dessert,) eaten. To use carbohydrate counting, the amount of carbohydrate in food must be counted. The physician, dietitian, or nurse gives the amount of carbohydrate to be eaten at each meal and snack to the client. One serving equals one carbohydrate or 15 grams of carbohydrate. Carbohydrate choices are called "carbs." The following represent one serving of carbohydrate or one "carb:"

1 slice bread
½ cup cooked cereal
½ cup starchy vegetable choice
1 fruit choice
8 ounces of milk
¾ cup of plain yogurt
1½ cups of cooked non-starchy vegetables

PRACTICE POINT

Carbohydrate (starches and sugars, including sugar found naturally in milk, fruit, and some vegetables) is most responsible for the rise in blood glucose after a meal. These foods must be carefully controlled whether a person is counting carbohydrate or using some other method of meal planning.

Food Labeling

The Nutrition Facts panel gives the Total Carbohydrate in one serving of the packaged food. Total Carbohydrate includes the sugar, if any, contained in the food. The portion size being used by the client must be measured or the approximate weight determined to see if it is the same size as the portion size listed on the package. If it is not, how much more or less carbohydrate is eaten must be figured out.

Other useful information for the person with diabetes includes Total Fat content, Saturated Fat content, and Sodium content of the portion size given on the package label. The fat content information is important for the prevention and treatment of heart and blood vessel disease, and for weight control. The sodium content is important for persons who are retaining fluid in the body, for many persons with high blood pressure.

PRACTICE POINT

Many persons with diabetes use the Nutrition Facts label to see how much sugar is in the product. Look, instead, for Total Carbohydrate. All carbohydrate causes a rise in blood glucose after a meal.

Sugars and Other Sweeteners

Many people believe that sugar must be avoided and replaced by starches. They believe that if they avoid sugar they will have no trouble controlling their blood glucose levels. The truth is that all types of carbohydrate count. Sugar causes a rise in blood glucose like that of bread, rice, and potatoes. In carbohydrate counting, foods containing sugar may be eaten if they are counted as part of the carbohydrate allotment for that meal or snack.

High sugar foods must be limited, however, for several reasons:

1. High sugar foods are low in vitamins and minerals. They are not very nutritious;
2. High sugar foods are often high in fat;
3. Portion sizes need to be small because they are usually very high in carbohydrate. Portion sizes may need to be smaller than a person desires to eat. For example, a piece of apple pie may contain 45 grams of carbohydrate or more. The total allotment of carbohydrate for the entire meal may be 45 - 60 grams of carbohydrate.

PRACTICE POINT

All types of carbohydrate count, not sugar alone. It is easy to eat too much carbohydrate when eating sugary foods because they usually contain a lot of carbohydrate.

Noncaloric Sweeteners

Saccharin (Sweet and Low), aspartame (Equal or Nutra-Sweet), acesulfame K (Sweet One, Sunette) and sucralose (Splenda) are approved for use in the United States by the Food and Drug Administration (FDA). Sugar-free or no-sugar added foods are not necessarily calorie-free or carbohydrate-free. Check the nutrition label for calorie, fat, and carbohydrate information.

PRACTICE POINT

Sugar-free or no-sugar added foods are not necessarily free foods for the person with diabetes. Most of these foods contain carbohydrates and some are high in fat. They must be accounted for in the meal plan.